REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and the remarks that follow.

Also attached is an Information Disclosure Statement in accordance with 37 CFR 1.56(b). Applicant respectfully requests the examiner to consider the cited references.

I. Interview Summary

Applicant thanks examiner Farah for extending the courtesy of a telephone interview with Applicant's representative on October 28, 2009. During the interview the examiner suggested the following amendments to the claims:

(i) amend claim 1 to incorporate the subject matter of pending claim 7 which the examiner believes would distinguish the inventive system over the cited prior art,

(ii) amend claim 13, to clarify that the whole system emits only UVA light,

(iii) amend claims 17 and 22 to specify the independent steps in the inventive method, which the examiner believes are necessary to define the metes and bounds of the claimed invention.

Applicant has amended claims 1, 13, 17 and 22 along the lines suggested by the examiner. Applicant believes that these amendments should not raise any new issues that would require a new search.

II. Status of the Claims

Claims 1, 13, 17 and 22 are amended to better define the claimed invention, and to distinguish the claimed invention over the cited prior art. Claim 7 is cancelled without prejudice as the subject matter of claim 7 is incorporated in amended claim 1. Claims 8-12 are amended to now depend from amended claim 1.

After entry of the amended claims, claims 1-5, 8-24 and 44 are pending and are being submitted for reconsideration.

III. The Rejections Should be Withdrawn

A. Provisional Non-statutory Obviousness-type Double Patenting

In the final Office Action dated March 17, 2009, the PTO provisionally rejects claims 1-5, 7-24 and 44 on the grounds of non-statutory obviousness-type double patenting as being unpatentable over claims 58-77 of copending application No. 10/591,960. Because of the provisional nature of the rejection, Applicant respectfully requests the examiner to hold the rejection in abeyance until patentable subject matter is identified.

B. Obviousness Rejections

1. The Rejection of Claims 1, 13 and 17 Should be Withdrawn

Claims 1-5, and 7-21 are allegedly obvious over the combined teachings of Doty et al., (U.S. Patent No. 5,374,825) in view of Wolff, (U.S. Patent No. 4,703,184) and Dutta Published Application No. US 2005/0201963.

(a) Claims 1 and 13

Claim 1 is amended to recite a system for skin tanning and phototherapy using a UV excitation source that is positioned to provide UV excitation radiation of a first peak wavelength onto a nanostructure UV light emitting device, to cause the device to emit UVA light having a second UVA peak wavelength longer than the first peak wavelength.

Claim 13 is also directed to a system for skin tanning and phototherapy and is amended to recite that the system emits only UVA light. None of the cited references teach the inventive skin tanning/phototherapy systems of claim 1 and 13.

Doty, as acknowledged by the examiner, does not teach the use of UVA light in tanning and phototherapy or a nanostructure for emitting UV light as claimed. Moreover, Doty does not teach a device that uses a UV excitation source providing UV excitation radiation of a first peak wavelength onto a nanostructure UV light emitting device, to cause it to emit UVA light having a second UVA peak wavelength longer than the first peak wavelength.

Rather, Doty teaches the use of photodiodes to measure the intensity of UV light emitted by UV light emitting bulbs during tanning. Wolff and Dutta do not remedy the deficiencies of Doty.

Wolff does not teach the inventive system of claim 1. Wolff teaches an apparatus that consists of UV lamps for skin tanning, and states that its device emits UV light that contains some UVB light as a component of the emitted radiation. *See* Wolff at col. 4, lines 43-47. In contrast, the inventive system of claims 1 and 13 use a nanostructure as the UV light-emitting device to emit **only UVA light.**

Although Dutta teaches a device that has nanoparticles, Dutta provides, at best, only generic statements regarding the use of its nanoparticles. Dutta's focus is on a method for fabricating passivated nanoparticles with no teaching or suggestion for using the passivated nanoparticles in tanning/phototherapeutic systems. Dutta therefore does not remedy the defects of Wolff and Doty.

Moreover, neither Dutta nor Wolff teach the limitation of providing a UV excitation source that is positioned to provide UV excitation radiation of a first peak wavelength onto a nanostructure UV light emitting device, to cause it to emit only UVA light having a second UVA peak wavelength longer than the first peak wavelength as recited by claim 1 or a system that emits only UVA light as recited by claim 13.

Thus, the inventive systems of claims 1 and 13 are not obvious over the cited references and Applicant respectfully requests the examiner to reconsider and withdraw this rejection.

(b) Claim 17

Applicant has amended claim 17 to recite the independent steps of the inventive methodology for skin tanning and phototherapy. None of the applied references teach the inventive method of claim 17. For example, Doty, Wolff and Dutta do not teach a method for tanning and phototherapy using only UVA light from a nanostructure UV light emitting device.

Although Doty and Wolff teach a method for tanning skin, these references are silent about the use of only UVA light. Rather, Wolff teaches away from using only UVA light in phototherapy by disclosing that for medical applications the percentage of UVB light in the emitted radiation is increased to approximately 2%. Wolff and Doty therefore do not teach the inventive methodology.

Moreover, as stated above, neither Doty nor Wolff teach the use of a nanostructure UV light emitting device as claimed and Dutta does not remedy this deficiency in Wolff and Doty. Dutta teaches a method for fabricating passivated nanoparticles, with no teaching for using the nanoparticles in phototherapeutic applications and tanning, much less using only UVA light.

Thus, claim 17 is patentable and non-obvious over the cited references and Applicant respectfully requests the examiner to withdraw this rejection.

2. The Rejection of Claim 22 Should be Withdrawn

Claims 22-24 and 44 are alleged to be unpatentable over the combined teachings of Doty et al., (U.S. Patent No. 5,374,825) in view of Wolff, (U.S. Patent No. 4,703,184) and Dutta Published Application No. US 2005/0201963 and further in view of Salansky et al., (U.S. Patent No. 6,494,900).

At issue is the Office's contention that Doty, Wolff and Dutta teach a method for providing phototherapy using only UVA light and a nanostructure light-emitting device as the source for UVA radiation and that Salansky's teaching for treating lupus when combined with the prior art method would allow a person of ordinary skill to arrive at the claimed invention. Applicant respectfully disagrees.

First, as stated above, neither Doty, Wolf nor Dutta teach a method for using only UVA light in phototherapy as claimed. Doty teaches the use of UV light in tanning and Wolff discloses UV radiation consisting of UVA and UVB light for medical applications. Besides, neither Wolff not Doty, as admitted by the Office, teach a nanostructure light

emitting device or an LED as the source of UVA radiation. Dutta is cited to teach UV emitting nanostructures, but Dutta fails to teach or suggest their use in the treatment of lupus.

Moreover, in the absence of such a suggestion, there would be no reason for a skilled artisan to modify the Doty or Wolff's apparatus to use a UV light emitting nanoparticle of Dutta. Thus, Doty, Wolff and Dutta in combination do not teach the inventive methodology.

Salansky cited to teach lupus therapy, does not cure the defects of Doty, Wolff and Dutta. Salansky teaches the use of visible and IR radiation for treating a range of biological tissue. The only mention of UV light in phototherapy applications is in the background section where Salansky discloses using red or UV light in the treatment of pockmarks and lupus. Salansky, however, does not teach a device that emits only UVA light as claimed. Instead, Salansky exemplifies using light with a wavelength in the non-UV range, for example, in the 400-2000 nm range. *See* col. 3, lines 48-53.

Thus, Salansky's teachings would not inform a skilled artisan to use an LED or a nanoparticle light emitting device for producing UVA light useful in lupus therapy. Claim 22, therefore, is patentable over the cited references and the examiner is respectfully requested to withdraw the obviousness rejection.

Claims 23, 24, and 44 depend from claim 22 and incorporate all its limitations. The dependent claims are patentable for at least the same reasons mentioned above for claim 22.

Applicant respectfully requests the examiner to withdraw these rejections.

CONCLUSION

Applicants respectfully submit that the present application is now in condition for allowance, and respectfully request an early indication to this effect. The Examiner is invited to contact the undersigned if it is felt that any issue warrants further consideration.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16 - 1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, the Commissioner is authorized to charge the unpaid amount to same deposit account. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petitions for such extension under 37 C.F.R. § 1.136 and authorizes payment of any such extensions fees from the deposit account .

Respectfully submitted,

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By _____

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